

RESPONSE

Support

Applicants have amended claim 1 to specify that component (A), component (B), or mixtures thereof are present in the detergent composition of the present invention and that the composition may optionally further comprise components (C) and/or (D). Support for this amendment comes from the original claim as well as page 5, lines 7-18 and page 6, line 16 to page 9, line 25 of the specification.

Applicants have also amended claim 1 to specify that the detergent composition of the present invention is supplied to the combustion chamber of the engine involved as a component of the fuel composition being used by the engine. Support for this amendment comes from claim 2 and also at page 5, line 32 to page 6, line 4 of the specification.

Applicants have also amended claim 1 to specify that the lubricating oil used by the engine has at least one of the properties selected from the group consisting of a phosphorus content below 0.1% by weight, a sulfur content below 0.5% by weight, and a sulfated ash content below 1.5% by weight. Support for this amendment comes from original claim 11 and also at page 17, lines 10-23 of the specification.

Applicants have amended claim 3 to depend on claim 1 and have also amended claim 3 to remove the limitation added to claim 1. Claim 3 has also been amended to specify that the fuel used in the method is diesel fuel. Support for this amendment is found on page 12, lines 27-28 of the specification.

Applicants have amended claim 11 to remove the limitation added to claim 1, on which claim 11 depends.

Applicants have amended claim 12 to depend on claim 1 instead of claim 2.

Applicants have cancelled claim 2.

No other elements of the claims have been amended.

Response

The Examiner rejected claims 1-3, 5, 8 and 10-14 under 35 U.S.C. 103(a) as being unpatentable over Forde et al (US 6,136,051) alone, or in combination with Pudelski et al (US 6,412,468). Applicants respectfully disagree.

Applicants have amended claim 1 to specify that the lubricating oil used has at least one of the properties selected from the group consisting of a phosphorus content below 0.1% by weight, a sulfur content below 0.5% by weight, and a sulfated ash content below 1.5% by weight. The Examiner noted in the July 31, 2008 office action

that Forde does not provide for this feature. Therefore, Applicants respectfully request that all rejections based on Forde alone be withdrawn.

With regards to the rejections based on the combination of Forde and Pudelski, Applicants submit that the amendments described above overcome these rejections as well, particularly the amendments specifying that the detergent composition used in the method of the present invention is delivered to the combustion chamber via the fuel composition, and where the detergent composition improves the performance of the specified engine oil being used in the engine.

Forde teaches gasoline fuel compositions containing a detergent designed to reduce combustion chamber deposits. Forde provides no teaching or suggestion that its additives have or could have any impact on the performance of any engine oil being used in the engine in which its fuel compositions are used, let alone the specific type of oil specified by the present invention.

Pudelski deals with a method of operating an engine utilizing a solid film lubricant physically placed on high wear surfaces of engine parts. This solid film must be specially applied to the engine parts, typically by the OEM. The use of this specialized solid lubricant film allows for an engine using the low SAPS oil defined in the reference (which generally contain reduced levels of oil additives) to have improved performance compared to engines using low SAPS oil that do not include the special solid lubricant film. There is no teaching or suggestion in the reference toward supplying additives to improve the performance of such oils by any means other than the solid film lubricant. No other means of protection are suggested nor disclosed by Pudelski.

In contrast, the present invention deals with a method of operating an engine that includes supplying a detergent composition to an engine's combustion chamber via the fuel composition being used. The use of this detergent composition results not in the reduction of combustion chamber deposits, and not in the formation of a solid lubricant film that improves oil performance by protecting high wear surfaces in the engine, but rather in the improvement of the performance of the oil due to a continuous transfer of small amounts of the detergent composition from the fuel to the oil during the operation of the engine. This transfer of the detergent additive from the fuel to the oil improves the performance of the specified oils involved.

The present method provides a novel and non-obvious means of improving the performance of an oil with a phosphorus content below 0.1% by weight, a sulfur content below 0.5% by weight, and a sulfated ash content below 1.5% by weight, or combinations thereof. The improvement is in the performance of an oil with the characteristics

specified by the current claims, characteristics not disclosed or suggested by Forde. The improvement is accomplished without a solid lubricant film, as taught by Pudelski, but rather by a delivery method not disclosed or suggested by Forde or Pudelski, alone or in combination.

Therefore, Applicants respectfully submit the present invention is both novel and non-obvious over Forde and Pudelski and ask that these rejections be removed.

The Examiner has rejected claims 1-3, 8 and 10-14 under 35 U.S.C. 103(a) as being unpatentable over Malfer et al (US 6,800,103) alone, or in combination with Pace et al (WO 02/18521 A2). Applicants respectfully disagree.

Applicants have amended claim 1 to specify that the detergent composition comprise components (A) and/or (B), neither or which are taught by Malfer or Pace, either alone or in combination. Therefore, Applicants respectfully ask that these rejections be removed.

The Examiner has rejected claims 1-3 and 7-14 under 35 U.S.C. 103(a) as being unpatentable over Daly et al (US 6,224,642) alone, or in combination with Pace et al (WO 02/18521 A2). Applicants respectfully disagree.

Applicants have amended claim 1 to specify that the detergent composition comprise components (A) and/or (B), neither or which are taught by Daly or Pace, either alone or in combination. Therefore, Applicants respectfully ask that these rejections be removed.

Finally, Applicants have also amended claim 3 to specify that the fuel used in the method of the present invention is diesel fuel. Forde is limited to gasoline fuel compositions and provides no teaching toward diesel fuel compositions. Therefore, Applicants respectfully submit, for this reason and the reasons outlined above, all rejections of claim 3 based on Forde, either alone or in combination with other references, should be removed.

Conclusion.

For the foregoing reasons it is submitted that the present claims are novel and unobvious over the cited references, and in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding office action. Therefore an early and favorable reconsideration is respectfully requested. If the Examiner believes that only minor issues remain to be resolved, a telephone call to the Undersigned is suggested.

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Any required fees or any deficiency or overpayment in fees should be charged or credited to deposit account 12-2275 (The Lubrizol Corporation).

Respectfully submitted,

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